

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for the production of organic solar cells or photodetectors, the method comprising:  
applying a first organic n- or p-conductive semiconductor layer to a first electrode, the first organic semiconductor layer having a first conductivity,  
applying a second organic semiconductor layer to the first organic semiconductor layer, the second organic semiconductor layer having a second conductivity opposite to the first conductivity, the second organic semiconductor being present in a solvent when applied to the first organic semiconductor layer, the solvent being capable of partially dissolving the first organic semiconductor layer, such that a portion of the first semiconductor mixes with a portion of the second semiconductor to form a bulk heterojunction mixed layer, and  
after applying the second organic semiconductor layer to the first organic semiconductor layer, applying a second electrode opposite the first electrode.
2. (Previously Presented) The method according to claim 1, wherein the solvent for each of the first and second organic semiconductor layers is matched to the solubility of the semiconductor to be deposited in that layer.
3. (Previously Presented) The method according to claim 1, wherein the application of the first or second organic semiconductor layer is effected by doctor-blading or by a printing process.
4. (Previously Presented) The method according to claim 1, wherein a conjugated polymer is used as a donor.
5. (Previously Presented) The method according to claim 1, wherein a soluble methanofullerene is used as an acceptor.

6. (Currently Amended) A method for producing organic solar cells or photodetectors, the method comprising:

applying a solution comprising a second organic semiconductor and a solvent on a first layer, the first layer comprising a first organic semiconductor that is at least partially soluble in the solvent; and

evaporating the solvent to form a second layer and a bulk heterojunction mixed layer between the first and second layers, the second layer comprising the second organic semiconductor and the bulk heterojunction mixed layer comprising a mixture of the first and second organic semiconductors[.]; and

disposing a second electrode on the second layer after evaporating the solvent.

7. (Previously Presented) The method of claim 6, further comprising disposing the first layer on a first electrode before applying the solution.

8. (Cancelled)

9. (Previously Presented) The method of claim 6, wherein the solution is applied by spin-coating, doctor-blading, or by a printing process.

10. (Previously Presented) The method of claim 6, wherein the first organic semiconductor is a conjugated polymer.

11. (Previously Presented) The method of claim 6, wherein the second organic semiconductor is a fullerene.

12. (Previously Presented) The method of claim 11, wherein the fullerene is a methanofullerene.

13-17. (Cancelled).